

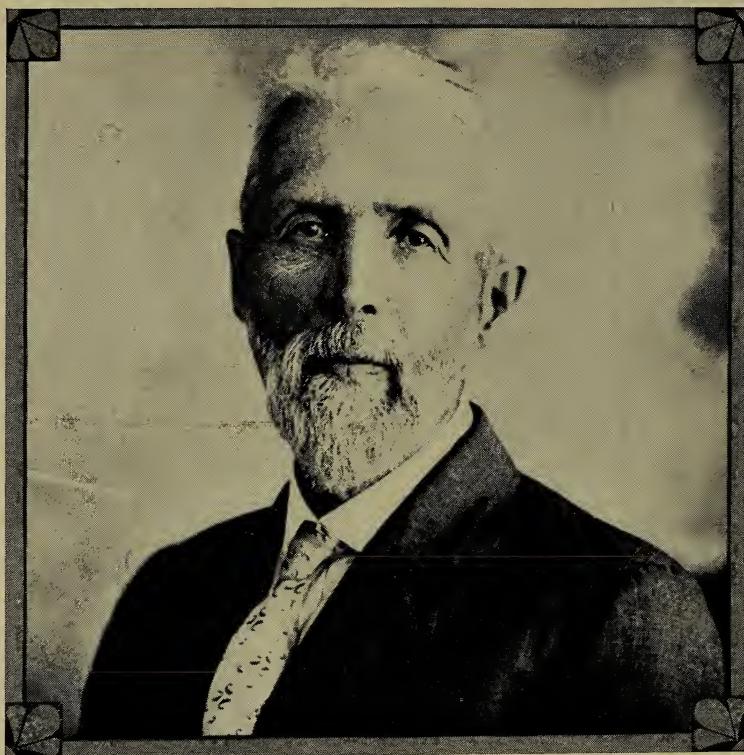
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PLANTER'S
GUIDE

BY JAMES A. COOPER



The longer I live, and the further I travel, the happier I think myself in having lived in our wonderful Northland!

Everybody knows that we have food to feed the world, but not everybody knows that we now have fruits and flowers that rival in excellence those found in any corner of the earth.

Stop, look, listen! Some of them are for YOU.

CLARENCE WEDGE.

Planters' Guide

A Handbook
of Information for the Guidance of
Amateur Planters of

Fruits, Windbreaks and Ornamentals

In the Colder Sections of
the United States



By

Clarence Wedge and Robert C. Wedge
Albert Lea, Minnesota



Foreword



E PUBLISH this booklet for the instruction and guidance of those who plant trees, fruits or flowers in the North Mississippi valley where the author has had a life-time experience. Plants of all kinds behave differently and require very different treatment in other climates and situations. We do not attempt to give advice to those living outside the great region extending from Lake Michigan to the Rocky Mountains, and from Missouri to Lake Winnipeg. But we have had extensive experience and travel within this territory and endeavor to give the benefit of what we have learned in as clear, unprejudiced and simple a manner as possible, hoping and believing that it will prove a safe and reliable guide to the beginner, and contain suggestions of value to the professional horticulturists.

We print a list of fruits which we recommend for planting in the Northwest that is merely a boiled-down list of the one adopted by the Minnesota State Horticultural Society. This is the largest and most influential horticultural society in the United States, having a membership of over 3,000, and being centrally located in the region above described. Its recommendations have become a standard authority on varieties adapted to general planting. From their list and from the newer varieties that have come into public notice we have made a selection of the fruits that seem to be giving the greatest satisfaction, and described them carefully and impartially, giving their faults as well as their merits. Trees, as well as men, have their faults and weaknesses, which it is best to understand and perhaps provide against at the start, rather than to discover after years of labor have been bestowed upon them.

The description of the varieties and the directions for their planting represent our latest experience in the orchard and nursery, together with such ideas as we are able to get from horticultural meetings and farmers' institutes. Our aim is to make the Planters' Guide something that every planter in the North will consider worth reading and worth preserving.



Attractive grouping adds more charm than twice as many scattered shrubs.

General Instructions

Where to Plant Land that is suited to the growth of the common farm crops is usually safe to use for planting to any of the trees or plants mentioned in this book. There is scarcely anything that will do its best in land too low or wet to yield a good crop of corn or potatoes. The elm and willow manage to keep alive in pretty wet places, but they will always do better in well drained farm soils. A fruit tree is expected to do something more than merely exist. We want it to thrive and bring forth fruit, so we must give it a better chance than a common shade or windbreak tree. We must look upon the orchard as a cultivated crop, one of the most useful and valuable of the farm crops, and give it the same kind of thought and attention that we give other crops. If the requirements of a good farm crop are kept in mind the orchard or berry patch will not be planted beneath or near large cottonwoods or willows or anything that rob them of their share of moisture and sunlight. Neither will they be planted on a gravel knoll where everything is starved and stunted. They will not fail to receive protection from live stock that is always given to the other farm crops.

Other things being equal almost all fruits do a little better on a northerly slope than on any other, the south slope being the most undesirable. Some of the best orchards in the country are situated on northerly slopes so steep as to make them unfit for farming. However, we find good orchards and gardens on level land, and on land sloping in all directions, so that no one need doubt of success whatever the slope of the land, if only they have a soil and situation that will raise a good farm crop and will give their fruits or trees the same thorough and timely attention that a good farmer does his field crops.

When to Plant In the moister air of the Eastern Coast States many things can be better planted in the fall than in the spring, but in our section the things that are safe to plant in any other months than April and May can be told on the fingers of one hand, and most of these will also do well with spring planting. Stock received in the fall should be carefully buried, root and branch, undoing the package in which it is shipped, breaking all bundles apart, and working in the soil about each root as carefully as when planting to stay. After filling in the hole with dirt, and leaving the place exposed till frozen solid to the bottom, the ground should be mulched to keep it frozen till spring, when the trees can be taken out and set where they are to stay at the convenience of the planter.

The principal exceptions to the above rule are found in the peony, iris, phlox, gaillardia and the class of plants known as hardy perennials, most of which can be planted with the very best results in a moist time in August or September. They also succeed well with the usual spring planting. Tulips, hyacinths, narcissus, and the whole list of Dutch bulbs can only be planted in the fall, September and October being generally thought the best months.

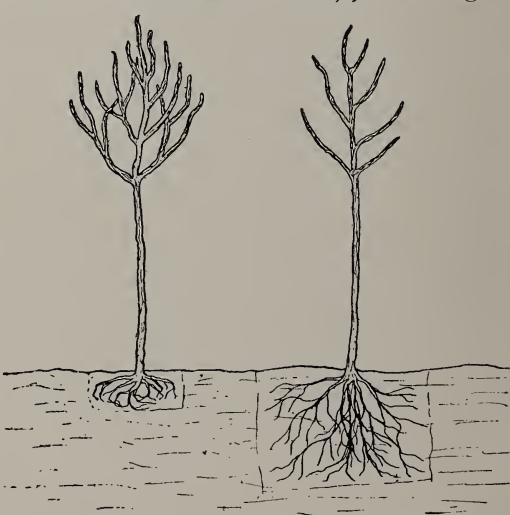
How to Plant In receiving nursery stock, all possible pains should be taken to prevent the roots from being exposed to the air for even a few minutes. One of the best methods is to dip the bundle in a tank or pool of water as soon as it has arrived, and opening in a shady sheltered place, heel in the roots in good moist soil while the holes are being dug and the planting begun. The holes, which should be large enough to accommodate the roots without bending or bruising, we prefer to dig as the trees are being set, so that the soil will not lose its moisture by being exposed to the sun and wind. In planting, place the tree in the hole a little deeper than it stood in the nursery.

A very convenient way of preventing exposure of the roots while carrying them from the place where they are heeled in, is to prepare a pail of mud, and placing it in a wheelbarrow use it to convey a portion of the trees with their roots immersed in the mud to the planting ground, where they may be taken out one at a time as they are needed without any exposure whatever.

Stamping the Soil Firmly About the Roots Most Important of All

earth against them until it is solid. Fill in a little more dirt and repeat the stamping until the hole is nearly full, finishing with loose dirt, but leaving the tree standing in a sort of valley to catch the water and insure its settling down to the roots. A tree thus firmly set cannot be pulled up without breaking the roots, and this general rule applies to everything from a strawberry to a shade tree. We prefer this way of setting to the use of water, as in that case it is impossible to pack the dirt solid about the roots.

Begin by sifting in fine moist dirt among the roots, just enough so that the boot will not injure them, then with the heel and all the strength and weight at command, stamp the



Improperly Pruned and Planted.

Properly Pruned and Planted.

**Soil Should
Be Left Sloping
Toward
the Tree**

All trees do better when planted in cultivated ground, but of course this is impossible in some cases. When necessary to plant in grass, the sod should be taken off at least a foot in every direction from the tree. In planting orchards a little larger space can be left free from sod but in lawn planting it is not practical to disfigure the premises by leaving a large bare spot about every tree. As the planting is finished the ground should be left sloping toward the tree in all directions so as to catch and turn toward it all the water possible. When the planting is finished a mulch of straw or lawn clippings should be spread about the tree to keep the ground moist and the grass and weeds from growing near it.

**Cutting Back
Should Not be
Neglected**

When either trees or bushes are planted they should be carefully pruned by removing all unnecessary branches and about half the growth of the previous season. This is very important in order to preserve a balance between the root and the top, and in the case of many bush fruits and ornamental shrubs the trimming should be so severe as to leave but a small portion above ground. Large shade trees should have nearly all their branches removed, leaving little if anything but their naked stems. If the lower two-thirds of their stems are wrapped with strips of burlap or hay rope as soon as set, it will go far in saving their vitality and in protecting their trunks from sun-scald. Such wrapping may be profitably maintained for several years until the trees have begun to make a vigorous growth. The foregoing directions for pruning do not apply to evergreens.

What to Plant It is the aim of the following pages to assist the planter in choosing the varieties best suited to his taste and condition. Those living north of the latitude of St. Paul will find hardiness or ability to resist cold one of the most important considerations in making a selection. To aid in this matter we have marked such varieties of trees and plants as are especially adapted to severe conditions with a *. There is much controversy as to the best sized tree to plant, some contending that a small tree is better and safer than a large one, and others arguing for the larger sizes. We have succeeded with all sizes, and think good care at time of setting and cultivation afterwards are of more importance than the size of the tree used for planting. In evergreens, nothing is gained by planting trees over three feet, the safest size being usually about 18 to 24 inches.

Fruits for Planting in the Northwest

The common mistake in planting fruits in the Northwest is to put out varieties that are not adapted to the cold and severe winters of Minnesota and the Dakotas. This could easily be prevented if the nurseryman of the country would be particular to sell only the proven things in each locality and in so doing they would build up a better reputation as well as a ~~host~~ of satisfied customers. It has for years been our policy to offer a very short list of fruits and there is always an outstanding variety in each class which we would rather see planted than some of the others. We are enumerating below a few of these and have taken pains to illustrate them in their natural colors.

	Page
REDWING APPLE	13
SUCCESS CRAB	9
HANSKA PLUM	16
BETA GRAPE	20
PERFECTION CURRANT	21
CARRIE GOOSEBERRY	21
MINNESOTA No. 4 RASPBERRY	24
PROGRESSIVE EVERBEARING STRAWBERRY	25

Apples

What Has Been Done With Apples

Southern Minnesota already produces a surplus of summer and fall apples, as many as 117 car loads having been shipped out of one county in one summer. There are now many good orchards as far north as the latitude of Duluth and even in Manitoba, eighteen miles north of the state of North Dakota, our friend Mr. Stevenson of Morden, has grown 300 barrels of large apples within the past few years. All of this goes to show that with the improved Northern methods and varieties anyone within the limits of the United States may at least have a good home orchard if he is living on land that will produce good crops of corn or potatoes.

We know that there have been many failures in the orcharding of the past. But it should be kept in mind that this is really a new country, and we have all had a great deal to learn not only in farm crops that have to be adapted to our short summers, but especially in the fruits and trees that must be suited to our summers and also to our severe, changeable winters. We have now learned better than to plant Eastern and Southern varieties or to care for them in exactly the same way that is done in other parts of the country. We are still learning that an orchard given up to grass and weeds, rabbits and live stock will not succeed any better than any other crop handled in a careless way. And those who have paid any attention to the apple market in the past few years must certainly realize that the day of cheap apples is past and that good fruit will never again go begging for buyers, and it has been fully demonstrated that with good honest care and timely attention to spraying as directed later on, an acre of land cannot be made to produce a greater profit than when planted to a well selected orchard.

How to Lay Out An Orchard

We wish to call attention to a system of planting that is especially adapted to meet the needs of our northern climate and is being adopted more and more each year. It is so fully illustrated on page 8 that we will only call attention to some of its advantages.

The wide space between the rows gives an abundance of room for raising a crop of corn, beans or potatoes in a convenient and profitable way, the cultivation of which crop will nearly complete the cultivation of the young orchard upon which its health and thrift so largely depends. A large orchard may be planted in this way without feeling the loss of the land which it occupies or the time required for its cultivation, until the trees themselves begin to make a return for the land and labor devoted to them. As the orchard comes into bearing this wide space becomes very useful in giving room for the operations of spraying, manuring, harvesting, etc., as well as affording a free circulation of air and an abundance of sunshine, both of which are very necessary to the proper ripening of the fruit.

How and When to Prune

At planting time follow the general directions before given. In the after training of apple or plum trees we try so far as possible to preserve a central stem with limbs growing out from it at intervals of six to twelve inches. It is a mistake to start the tree with too many branches as some of them will be certain to cross each other and make it necessary to remove large branches later on, which not only invites serious trouble, but wastes the energies of the tree. Start the lowest limbs about two and a half to three feet high and do not trim out the branches too much on the south side. Try to look ahead and imagine what will happen as the limbs grow larger and provide against heavy pruning in the future by cutting out unnecessary branches before they get to be larger than a lead pencil. Such light pruning may be done at any time of the year and is seldom

or never injurious. Where larger branches are removed the wound should always be covered at once to prevent checking and rotting before nature has given it a covering of bark. Any convenient paint will answer. All cuts should be made at the collar of the branch quite close to the trunk. Never do heavy pruning when the foliage is on the trees.

How to Prevent Sunscald

Anything that will shade the trunk or larger branches will prevent this very common injury. It should be put on when the trees are set and maintained until the tree is shaded by its own branches. A thin veneer of wood sawed about 12 by 24 inches and about 1/10 inch thick is now sold which is proving an excellent protection from rabbits and borers. When wrapped about the stems, heavy galvanized wire screening pushed down close to the ground and kept in place by the spring of its own wires, makes the best of all protections from sunscald, mice and rabbits and lasts a lifetime.

How to Control Blight

It has recently been discovered that blight may be very effectively controlled by cutting out the blighting twigs as fast as they appear. The cut should be made well below the affected parts and the knife should be sterilized by dipping it in a 5% solution of carbolic acid after cutting off each twig, so that the disease may not be carried from one limb to another. This work must be done as soon as the disease appears, and carried out persistently. It is also important that neighboring orchards be looked after or the disease will be continually carried back and the work prove unavailing. Birds, bees and other insects are the common carriers of the disease. It is our experience that a well sprayed orchard is seldom much afflicted with blight.

How to Protect the Roots

The roots of many trees, especially the apple, are more tender than the tops. In winters of scanty snow fall many trees will come through with enough life in their trunks and branches to open the buds and put forth a few small leaves, but with their roots so seriously injured or killed outright as to ruin the trees. If we always had plenty of snow evenly on the surface we would never have to think of the roots. But in order to make them safe in winters with light snow fall, and in places where the snow blows off leaving bare ground, it is always best to cover the ground with a mulch of any convenient material extending from three to six feet out from the trunk of the tree.



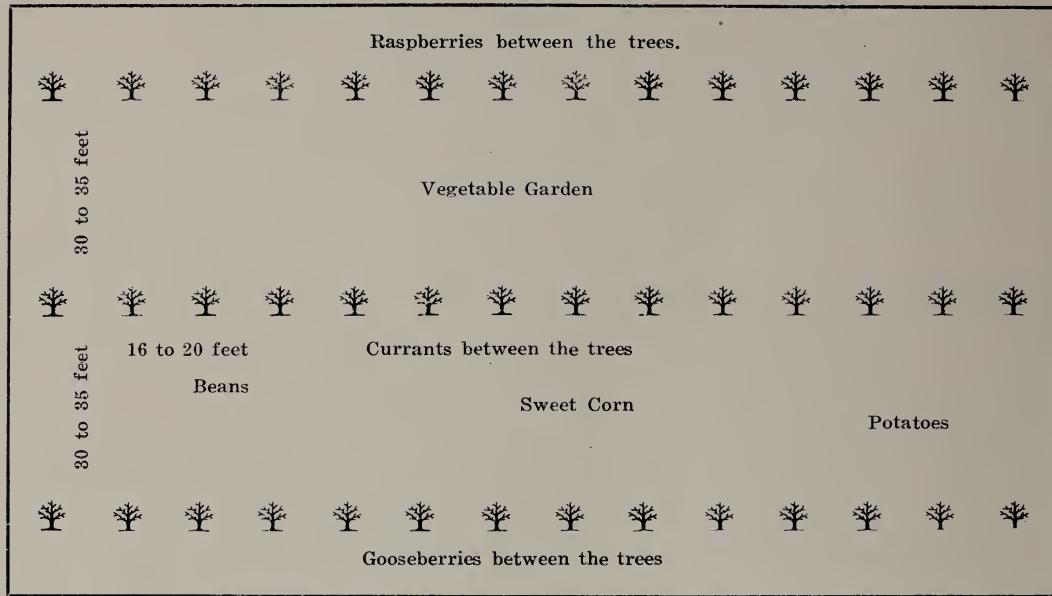
Wilder Medal won by Perkins Seedlings at the American Pomological Society Exhibition at Boston in 1903 in competition with all North America.



Gold Medal won by Perkins Seedlings at the Louisiana Purchase World's Fair at St. Louis in 1903 in competition with all comers.

A Northern Plan For Setting An Orchard

NORTH



SOUTH

This does not have to be very thick as it is a matter of common observation that a small amount of litter will keep out a great deal of frost. Where there is litter of any kind about the trees there will be danger of mice nesting and girdling them, which can be prevented by the use of galvanized screening as recommended under the prevention of sun scald.

*Shall We
Cultivate
or Sod
The Orchard*

There always has been and probably always will be a conflict of ideas on this question. There are really good points in both methods. In sod the land will stop washing and wasting in heavy rains, and the roots of the apple will be protected by the grass from severe freezing. But the trees will be much healthier, make a better growth, and stand drouth better in cultivated ground. Where the land is level so that it does not wash badly we advise cultivation, with a good mulch put about each tree in November. Where so rolling as to make cultivation impossible keep the land in clover, and use all the hay as mulch about the trees. In both cases protect the trees from mice with wire screening. Do not take a crop of hay from the orchard, or allow a hoof of any kind in it.

*How to Renew
An Old
Orchard*

There are hundreds of orchards in the country that are not doing their best, that indeed come very near doing their worst, that with a day's work putting them into proper condition to start with, and a few hours each year put into spraying and pruning could be made to produce enough fine fruit for the family and a surplus for the market.

The first thing to do is to cut out the surplus trees. There is no use trying to make apple or plum trees do their best after the branches begin to interlock. When this trouble begins most people trim out the lower branches that are always the first to touch each other. This is the worst possible policy for it is simply postponing the trouble, and cutting out the most valuable branches of the tree. The second and third



Success Crab. (Description on page 14.)

sets of branches will soon take their places, and in their turn have to be cut out for the same reason, and so on until there is nothing left of the trees, but tufts of branches way up in the air out of reach of spraying machinery; and breaking off with every high wind.

The thing to do is to make a drive on the orchard and cut out every other tree, or every two trees, leaving one. There is no more reason for mourning over them than there is over last year's corn stalks that have borne their crops and done their duty. The next thing to do is to remove all dead branches in the trees that are left, sawing them off clean next to the collar, and painting over the wounds. There will no doubt be quite a good many live branches that are crossing each other and making trouble, and right here you want to go slow. If there are very many, don't cut them all out in one year, and give the tree such a shock as a man would have if all his arms and legs were removed at one time. Better take three years to do this part of the job, removing the most necessary third of them the first year. You can do it at any time after the leaves have fallen that suits your convenience, if you will take the trouble to paint over the wounds to keep them from drying back, checking and rotting.

In most cases the next thing to do is to give your orchard a good dressing of manure and begin cultivating all summer, and mulching to protect the roots over winter as before directed. The trees being properly thinned and pruned, spraying will be made much easier and can be carried out as per directions on this subject. It will be noticed that these are all very plain, simple operations requiring no special talent or experience, and if undertaken with a fair degree of common sense will be much better done than when put into the hands of a professional tree pruner, who in most cases might more properly be called a tree butcher.



Good spacing invites sunshine to ripen the fruit and insures against insects by making cultivation easy.

How and When to Spray To keep the trees healthy and bearing the best fruit it has now become necessary to spray apple and plum trees regularly.

Two thorough applications will generally be sufficient in our climate. The first one should be given just after the blossoms have fallen; the second, two weeks later. It is a matter of first importance to get a good machine, for spraying materials are now quite expensive and a poor machine will soon waste enough material to pay for a good one. The test of a good sprayer is its ability to keep up a steady pressure of about 200 pounds, which will force the material through the nozzle so that it will come out in the form of a mist or fog which will settle on the leaves so as to cover every particle of the surface. Keep in mind that the material that drips from the leaves is so much waste of expensive chemicals, and that the old style sprayer that merely sprinkled liquid on one side of the leaf is altogether out of date. For most orchards the barrel sprayer taken about on a stoneboat will be sufficient, one man using the pump and another holding the nozzle. An orchard of fifty medium sized trees can be sprayed in one-half day with such an outfit.

A mixture of lime-sulphur and arsenate of lead is the material that fits the needs of nearly all cases, and if applied as suggested above to every apple and plum orchard would revolutionize the fruit of the country. The arsenate of lead used in the above spray is intended to poison leaf eating insects of all kinds. The lime-sulphur is intended to protect the leaves from various fungous diseases such as scab and rust.

Spraying material which can be bought through the drug houses, should be secured very early in the season as it is not kept on hand. As each brand varies in strength it is difficult to give a general rule that will apply to all, but the proper proportion in which to use them should be obtained at the time that the chemicals are bought. They are very easily mixed and can be prepared quickly when spraying time is at hand.

**Crooked Trees
May Prove
the Best in
the Orchard**

There is an unfortunate prejudice against crooked apple trees; as a rule the varieties that grow crooked in the nursery make the best orchard trees, as they are always the spreading growers that shade their own stems, and are not so liable to split down when loaded with fruit. It is not at all necessary that a first-class tree should be straight and prettily branched. Some of the best varieties do not grow that way, but are always crooked and gnarly in the nursery. Some nurseries will not grow such varieties at all, as it costs more to raise them, and the ignorant customer is almost sure to complain of them when they are delivered.

The Hibernal and Patten's Greening apples and the Early Strawberry crab seldom make straight trees, and should never be ordered by those who care more for a straight tree than they do for a hardy fruit.

Season of Keeping of the Apple List In the descriptions below we give the time that the fruit may be expected to keep, with careful, intelligent care, in the house cellar. With careless handling and in a commercial way they will not be fit for use for near so long a season. Never put the fall and early winter varieties in the cellar immediately after picking; they will keep far better in open boxes or barrels in a cool shed until the approach of freezing weather. It is especially important to observe this rule with the Hibernal and Patten's Greening.

How to Select Varieties In planning a home orchard a good variety of summer, fall and winter kinds should be chosen in order to secure fruit so far as possible throughout the year, and to suit the various tastes of the family. It is, however, a very common mistake to set out too many early varieties which soon go to waste if they are not immediately used. The later keeping kinds such as Wealthy, Anisim, Malinda, Goodhue, and Redwing, should have special attention as with good care these will afford fruit throughout the winter.

We have not thought it worth while to describe a long list of varieties. It doesn't pay to plant them. It is indeed one of the common mistakes to plant a little of everything, and not enough of any one of the real good serviceable things. Too many summer varieties have been planted, and we have had more apples in August and September than we knew what to do with. A few early apples, a few crabs, and the main orchard set to winter kinds should be the rule.

We have had hundreds of fruits and ornamental trees on trial for the past forty years and in this book list those that have proved the most hardy and dependable. Our desire is to give our readers the full benefit of our long experience and save them expense and disappointment.

Varieties of extreme hardiness marked *.

✓ **LOWLAND RASPBERRY.** Moderately hardy, free from blight, very handsome medium upright grower, moderately early and fair bearer. Fruit medium size, beautifully shaded and spotted, mild acidity, generally agreed to be the finest dessert fruit among the early apples, and on this account deserves a place in every home orchard. Its season of ripening is remarkably long, some specimens ripening nearly a week before the Duchess, and a considerable quantity are generally left on the tree after the Duchess is gone. A most popular variety with all who have tried it. Season, August.

✓ ***DUCHESS.** Extremely hardy and free from blight; slow, upright grower, medium early and very prolific bearer. Fruit large, handsomely striped, quite acid, fine for cooking even when half grown. This variety has been more largely planted and is more generally successful than any other early apple in the North. Keeps quite well in cold storage, but for this purpose or for shipping should be picked before becoming soft or fully ripe, which will usually make quite a saving in the fruit, as when the crop is left to fully ripen a good share of it is likely to be blown off. Season, September.

✓ ***HIBERNAL.** The hardest apple known, blights but little, a thrifty grower, very early and abundant bearer. Trees set but five years have borne with us a bushel each. Fruit large, handsomely striped, excellent for cooking and superior for pies, but pretty sour and somewhat astringent for eating. Not a good market variety, but of great value on account of its rugged iron-clad nature, which fits it for planting even up in

Manitoba. Also one of the best of all trees to top-work with the more tender sorts, and is being largely used for that purpose. By planting the Hibernal, and after about three years top-working the trees to winter sorts, choice kinds like Golden Russet, Windsor, and Fameuse can be grown successfully up to the latitude of St. Paul. Season, September to November.

*PATTEN'S GREENING. Extremely hardy, free from blight even when planted among blighting kinds, a vigorous spreading grower, early and heavy bearer. Fruit very large, green when picked from the tree but changing to a beautiful yellow color in the cellar, a fairly good eating and superior cooking apple. One of the best showings that we have ever had in our orchards was a six-year-old tree of this variety that bore a barrel of apples. One of the most salable and profitable kinds in our orchard thus far, selling even when apples are plentiful. Season, September to December.

WEALTHY. Moderately hardy, somewhat subject to blight, and especially to sunscald, a strong upright grower, early and heavy bearer. Fruit medium to large, nearly covered with a beautiful waxy red. No apple can be found on our market that is equal to the Wealthy as grown in Minnesota. This variety originated at Excelsior, Minnesota, over forty-five years ago, and although it has killed back some in our severest winters, is today the most generally popular and profitable grown in the North. Season, September to January.

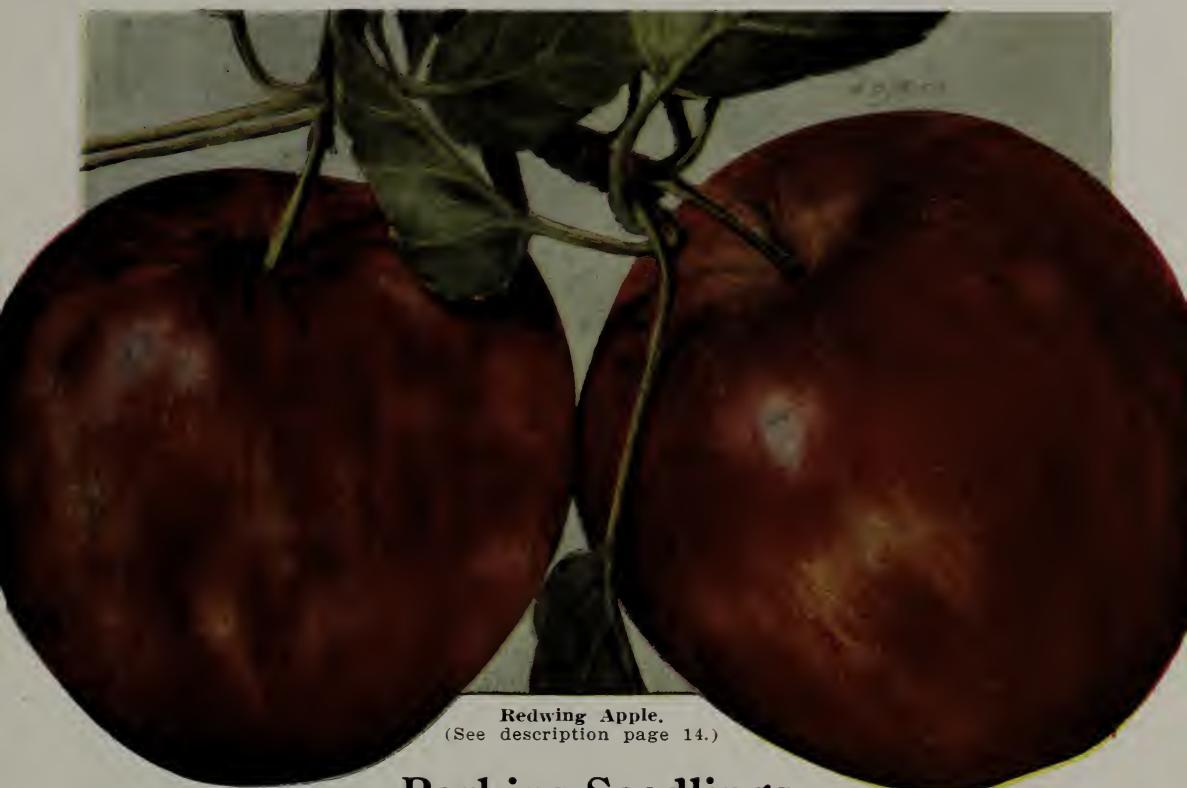
MALINDA. Moderately hardy, free from blight, a thrifty spreading crab-like grower, very tardy but heavy bearer when it attains age. Fruit medium size, when fully ripe of a beautiful yellow, frequently blushed, what is called the sheep nose shape; mild acid, nearly sweet, very much liked by most people in the spring when it becomes mellow and fully ripe. This is one of our most reliable winter apples, and one that can be greatly improved by proper pruning. Its habit of branching too freely is no doubt what keeps it from bearing as early as some other kinds. By cutting out these

surplus branches when lead pencil size the Malinda can be made one of the best shaped and most productive of our winter apples. Season, October to April.

*ANISIM. Hardy, remarkably free from blight, thrifty upright grower, with fine well-shouldered branches, and an immense bearer. Fruit below medium size, skin somewhat rough but of the richest red color, and a good quality. There can be no finer sight than the Anisim when loaded with fruit. The foliage of the darkest green and the apples of the richest red make a combination that once seen cannot be forgotten. In Russia where it originated it is known as Little Beauty.



Lowland Raspberry Apple. (See page 11.)



Redwing Apple.
(See description page 14.)

Perkins Seedlings

For years past the great need of the North has been varieties of winter apples that would extend beyond the season of the Wealthy. Many bright and enthusiastic men have been working on the problem, and premiums as large as \$1,000.00 have been offered for the desired variety. The man who has come nearest to solving this knotty problem is Mr. T. E. Perkins of Red Wing, Minnesota. But, as in most of the important achievements in the world, there was "a woman in the case."

In the spring of 1893, while paring some fine Malinda apples from their orchard, Mrs. Perkins discovered that some of the seeds had begun to sprout, and suggested to her husband that it might be a good thing to plant them. And so it was agreed that if she would save and sow the seed, Mr. Perkins would take care of the trees and finally plant them in the orchard.

In this way an orchard of 150 trees was started, which has now become famous. Selections from the fruit have for the past eleven years swept the boards at the State Fairs and taken the highest premiums at the meetings of the State Horticultural Society. But the best of all an exhibit made from this orchard at the meeting of the American Pomological Society in Boston took the Wilder Medal, the highest award given in competition with the whole United States.

The Malinda, the mother tree of the lot, has strongly impressed two most important qualities upon its offspring—long keeping and the disposition to hang to the trees till fully ripe. The surprising thing about the orchard is the large number of high-colored apples of good quality that were evidently produced by a favorable cross with some of the best Northern varieties such as the Wealthy and Duchess that were blooming near the parent tree.

In 1908, eleven years ago, a selection was made from this orchard and the propagation of several of the best varieties begun. We describe two of the most promising.

APPLES—Continued.

***RED WING.** Extremely hardy and free from blight. Has stood twelve winters and borne fruit in Manitoba in a climate where but few of the hardiest are able to endure the severest of winters. One of the thriftiest of the orchard trees, with large green foliage. Inclined to an upright habit in the nursery, but somewhat more spreading in the orchard. The branches are heavily shouldered so that there is no danger of their splitting down with heavy loads of fruit. An early and one of the heaviest bearers that we have ever seen, in 1913, when only twenty years from seed the original tree carried a crop of $27\frac{1}{2}$ bushels by actual measure. Fruit medium to large. Samples sometimes measuring 13 inches in circumference. Shape conical as shown by the cut, beautifully striped and splashed with red, one of the handsomest of apples. Hangs tight to the tree till ready to pick. Flesh firm, fine grained and remarkably juicy, much like the Northern Spy. Is too sour to eat when picked from the tree, but along in the winter becomes a fine crisp eating apple, and one that in pies cooks up with the crust. Promises to fill the long felt want of a winter apple that is entirely hardy in the North. Season, October to April.

***GOODHUE.** Hardy and as yet showing no blight. A strong, spreading grower, fairly early and good bearer. Fruit very large, equal in this respect to the Wolf River and like that famous variety one of the handsomest of show varieties. Quality very much like the Wealthy, so much so that before it was named it was known in the orchard as the variety "like Wealthy." Its magnificent size, rich red color and delicious quality seem to assure it a place in the home orchard and a reputation on the market. The great weakness of the Wealthy is its habit of dropping from the tree before it has attained its full color and quality. The Goodhue hangs until the fruit has become perfect in color and flavor and is ready for the barrel. As a variety it is so much superior to the old kinds as to make many of them obsolete. Season, October to January and perhaps later.

Crabs

Sour, Suitable for Cooking

***SUCCESS.** Hardy, and very free from blight. A strong, upright grower, early and full bearer. Fruit medium size, color a rich dark red, making an ideal crab for all purposes. It ripens late, remains juicy and keeps for several weeks, making it one of the most promising of all varieties to grow for the market. Good sour crabs are becoming scarce and bring a good price, and filling the want so perfectly, the Success should be one of the most profitable things to plant.

***TRANSCENDENT.** Extra hardy and greatly prized in the colder sections, blights badly everywhere. A thrifty, spreading grower, fairly early and immense bearer. Fruit too well known to need description. Ripens in September. Perishable.

Suitable for Dessert

***EARLY STRAWBERRY.** Hardy; a thrifty, spreading grower; early and heavy bearer. Fruit size of Transcendent, highly colored, ripens about September 1st. Of tender, delicious quality, too perishable for market but a fine little eating apple and just the thing for sweet pickles.

***WHITNEY.** Hardy and doing well everywhere, of very handsome, upright growth. As a bearer, varying much with soil and care, but generally satisfactory. Fruit very large for a crab, handsomely striped and far superior to the Duchess as an eating apple and when made into sauce has a distinct pear flavor. The most popular of all the small dessert apples. Ripens in September. Perishable.



Wolf Plums.

Plums

There is no fruit likely to give such genuine satisfaction as our improved plums. They are literally "as hardy as an oak." Begin to bear very soon after planting. Bear only too abundantly, and finally the fruit, either for dessert or canning, will rival in excellence the product of any garden on earth. No farm or village home even in North Dakota or Montana need be without this luscious fruit, which is more easily raised in our climate than peaches in New Jersey.

The trees should be planted in orchard sixteen by twenty feet apart. The heads formed about three feet from the ground. Rank top-heavy growths in young trees should be clipped back before they break down, and all pruning done before the branches have grown beyond the lead pencil size. The orchard should be kept free from grass and sprouts and liberally mulched, manured, cultivated, and given a thorough spraying as previously directed.

Failures with the plum are generally due to four causes. 1st: A bad selection of varieties. It is always best to have several kinds mixed together in the orchard, and if possible have them in compact form so that the blossoms may cross pollinate. 2nd. Failure to spray. Insect

enemies and fungous diseases such as rot and pocket are now so common as to demand the two sprayings recommended for the orchard. 3rd. The lack of manure and good cultivation. Plums seem to exhaust the soil more than most fruits, and bearing so heavy should be well fertilized in order to keep up their vigor. 4th. Overbearing. The trees will frequently set more fruit than they can ripen, and must have a half or more of the crop shaken off when the size of cherries, or the fruit will be small and the trees so enfeebled that they will not get back their vigor for several years.

***DE SOTO.** This variety was discovered growing wild near the little town of De Soto, Wisconsin and was one of the first to be taken up and propagated. It possesses most of the splendid qualities of the best natives, and is still popular with planters. Tree spreading, very hardy, inclined to over-bear. Fruit of good size, mottled red. Flesh peach-like and delicious. Skin thick and astringent. One of the best to pare and use with cream and sugar.

FOREST GARDEN. The earliest of the old varieties. Fruit light red, of medium size, sweet and rich, but too soft to carry to market.

***WOLF.** A fine plum, ripening about the same time as the De Soto, but differing in quality, and resisting drouth perhaps the best of all the old varieties. A good, large, red, free-stone plum.

PLUMS—Continued

***WYANT.** A choice variety, that with us has proved a more reliable bearer of large, smooth perfect fruit than any other of the old list. It is one of the few fruits that keeps steadily on the job and seldom misses a year.

***TERRY.** By far the largest plum of the old list. Tree very hardy, doing well in the severe climate of North Dakota. Fruit red, quite firm, with considerable acidity; clingstone. Was first sent out under the name of Free Silver.

PATTEN'S XX. This is the first plum put out by the noted plant breeder, Mr. Patten of Iowa, who has originated so many valuable varieties of apples. It is a cross between a native variety and the Burbank, one of the most popular fruits found on our markets. The strong points of this variety are its great productiveness and its

fine cooking quality. Unlike the old line varieties, the skin cooks up tender without a trace of astringency, and the trees are loaded with fruit year after year. The tree is the most vigorous grower of all the plums we have tried, requiring special care in cutting back strong shoots that otherwise would break down in wind storms. Ripens with the Wyant.

Hansen Hybrids

***OPATA.** This and the following varieties are the product of crosses between native and foreign varieties of stone fruits by Prof. Hansen of the South Dakota Agricultural College, and mark what we regard as a great advance in our list of Northern plums. The Opata is a cross between the native sand cherry and the Gold Plum. Tree is a good spreading grower, bearing heavy crops more continuously than any other variety we have ever planted. Fruit about the size of the De Soto, commonly weighing about a half ounce each. Dark purplish red with blue bloom. Flesh green, fairly firm, quality excellent. Ripens at least a week before any other plum, and on this account should be planted in every orchard. Perfectly hardy even in the Dakotas. In the autumn the foliage of the Opata colors up a rich bronze, and for a week or more renders the tree a most beautiful ornament.



Hanska Plum. (See description, page 17).



Cherries succeed if handled according to instructions on page 18.

PLUMS—Continued.

✓ ***SAPA.** A cross between the sand cherry and the Japanese plum Sultan. In style of tree, size, shape and color of fruit, very similar to the Opata. But when ripe the flesh and juice is of a rich dark purple color and makes a sauce of superior excellence in appearance resembling that made from wild grapes. Ripens about a week later than the Opata and is of equal hardiness. We have seen two year nursery trees of this variety loaded with fruit like currant bushes, and bending to the ground with its weight.

✓ ***HANSKA.** A cross between the native plum and *Prunus Simoni*, the large firm-fleshed apricot-plum of China. Tree very hardy, a strong medium upright grower, an early and full bearer. Fruit large size, bright red, and of a delicious apricot flavor. Fine to eat raw and cooks up without a trace of astringency. The fruit is firm enough to ship across the continent. The first real market plum possible for us to grow in the North.

✓ **WANETA.** This wonderful big new plum is the latest of Prof. Hansen's productions, and gives the Northern orchardist his first opportunity to compete with California in growing large market plums. The following is Prof. Hansen's description: "My belief is that in this variety I have combined the best points of the native and Japanese plum. It is probably the largest of 10,000 seedlings. The size here at Brookings, South Dakota, in 1912, was two inches in diameter, weight about two ounces. The female parent is the Apple plum, a large Japanese variety. The male parent is the Terry, the largest of the native varieties." We regard this the most promising plum that has been offered to our Northern planters since the settlement of the country. All the reports coming in from those who have tried it describe the Waneta as bearing early and producing the largest fruit that has been raised in their locality.



Homer Cherries.

Cherries

Cherries are beginning to come to the front in the North, and there seems to be no good reason why they should not, for they are grown in great quantities in Russia in a climate much colder than our own. The proper way to grow cherries in a severe climate is to train them as bushes rather than as trees, and year by year allow a few new sprouts to come up at the base of the older stems, and, as the latter become feeble or diseased, cut them out and allow the young ones to take their places. Set the trees very deeply, fully a foot deeper than they stood in the nursery. Lay out the orchard in rows of 25 feet apart, and set the trees 10 feet apart in the row.

HOMER. The only variety of the true cherry that has been grown in quantity in Minnesota. Near the little village of Homer, where it was originated, it has been in cultivation for over forty-five years, and has been grown and marketed in large quantities, and proved its superiority over all the common kinds that have been carefully tested by its side. So successful has this variety been in this locality that it seems worthy of trial in favorable localities south of the latitude of St. Paul. Of a little later season than the Early Richmond, and of larger size and better quality; otherwise much resembling this standard variety.

***COMPASS.** This remarkable fruit, the result of a cross between the sand cherry and a native plum, originated with H. Knudson of Springfield, Minnesota. The tree is perfectly hardy, even in the far North, and seems especially adapted to the Western prairies, where it is very free from disease, and remarkably exempt from insect enemies and the depredations of birds. It frequently bears the same year as it is set, and is quite certain to bear a good crop annually thereafter. The fruit which resembles a small bright red plum, is of pleasant acidity as eaten out of the hand and when cooked or canned makes a remarkably fine rich flavored sauce.



Grapes

This is a fruit that on almost any corn land can be grown as well here as in Iowa and Missouri, with the only additional expense of covering in winter, and with the great advance that has been made by the introduction of the iron-clad Beta, even this trouble has been done away with.

Vines should be set in long rows for convenience of cultivation, eight feet apart in the row, and rows also eight feet apart. Plant deep. For a trellis use three plain wires put up like a fence, but a little higher. Dirt makes the best winter covering, but manure will do. It is necessary that grapes be planted in a warm sunny situation and well cultivated. The art of pruning is best learned by spending a little time in the vineyard of your nearest grape grower.

MOORE'S EARLY. A very large black grape of rich flavor and excellent quality. The standard early grape. It is very hardy, and free from disease, but does not bear as heavy nor is it as vigorous as could be desired.

BRIGHTON. A fine-flavored red grape that ripens reasonably early, and has the great advantage that with little trouble it can be stored in the cellar and kept about as well as apples.



Beta Grapes growing on porch, serving a double purpose. Two vines produced 250 pounds of grapes in one season.



The Beta Grape.

Unlike the apple, pear, and plum, it may be expected to bring a crop as regularly as the seasons come around. The year of the great spring freeze, 1910, caught our Beta in full bloom and we thought that for once we would be without grapes. But the vines proved equal to the emergency and within a few days had put on new blossoms that at proper season developed into a fair crop of fruit. It would be remembered that almost all of the other tree fruits were ruined and many hardy forest trees killed outright at that time.

GRAPES—Continued.

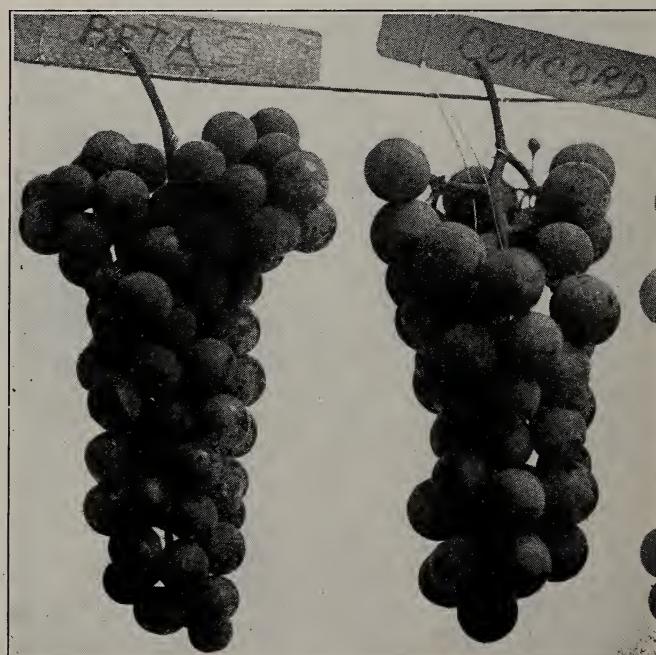
CONCORD. Black, productive, rather late, quality the best.

*BETA. Not one farmer in a hundred in Minnesota and the Dakotas is growing his own grapes. The reason is easy to find. It is not a practical thing for the average busy man to find time to take down his vines and cover them on the approach of winter, and to uncover and tie to the trellis after the winter is over.

All the good old Eastern varieties like the Concord required this and more in order to have a crop. With the introduction of the Beta, which requires no more winter attention than the Box Elder, a new era in grape growing has opened up, so that now anyone living where wild grapes grow in the woods and willing to provide a trellis of three fence wires to keep the vines from the ground, may have all the large, luscious grapes his family can use. We have had single vines in an overhead trellis that produced 140 pounds.

The Beta is a good sized black grape, as will be seen by the cut comparing it with the Concord. We have grown bunches that weighed three-fourths of a pound. Another strong point is its early ripening, insuring a crop before September frosts have cut the leaves.

Those who have not raised grapes do not know what a dependable fruit it is.



Beta Grapes bear as large bunches as the Concord and are hardy in the North.

Currants

A good old-fashioned fruit that everyone likes, and can be grown everywhere and in any soil that will produce a crop of wheat or potatoes. And it would now be found in every garden if people only knew how easy it was to protect the bushes from worms, which are almost its only enemy. This is not a cure, after the worms have once stripped the bushes and put them out of commission for three seasons, but a sure and safe preventive. Once every year as soon as the fruit has set spray the bushes with arsenate of lead, taking special pains to cover the leaves on the lower branches where the worms always begin their work. Don't be afraid of the poison, wash it off after the berries are picked. And don't fail to have this spray on the leaves every season ready for the first worms that hatch.

***RED DUTCH.** The old standard red that is agreed to be about the best variety of the old list.

***WHITE DUTCH.** A fine, sweet variety which we regard the best of the white kinds for general planting.

***PERFECTION.** A beautifully bright red variety with remarkably large sized berry and bunch, and unlike most of the large varieties, is getting a reputation as a heavy bearer. Currants over a half an inch in diameter are commonly found among the bushes. The quality is excellent, a



Perfection Currant.



Carrie Gooseberry.
(Described on page 22).

rich, mild acid, with plenty of pulp and few seeds. This variety is the product of a cross between the White Grape and the Fay Currant, and appears to mark a great advance in this fruit. We consider this one of the best of the new things that have come to light in the past few years, and would not think of planting any other red currant in our own garden.



Downing Gooseberry.

a most hardy and reliable variety, extremely productive, and of excellent quality, but rather small.

DOWNING. The great market variety. Light green, sweet and fine. A much larger variety than the Houghton and hence easier to pick and prepare for cooking or market. Not quite as hardy as the Houghton.

***CARRIE.** Originated in Minnesota, by the late Wyman Elliot. Pale red, about midway in size between the Houghton and the Downing, excellent quality, marvelously productive. The bush is remarkably free from thorns making it the easiest of all varieties to pick. The strong point in this variety, however, lies in the superior health of its foliage which stands out green and beautiful when other varieties planted near it are browned and spotted with rust and mildew. For general use we now always recommend the Carrie.

Raspberries

This is a true Northern fruit that is nowhere more at home than in Minnesota and Wisconsin. The common practice is to lay out rows 7 feet apart and set the plants 3 feet apart in the rows. The space between the rows is kept well cultivated throughout the summer, and the plants allowed to form a sort of hedge row 18 inches wide. New canes are allowed to grow in this row each season about as they will, cutting out the old ones as soon as they finish bearing in order to give them room.

KING. A very prolific bearer of large, bright red berries of good quality. A stronger grower than the Louden and equally hardy. Canes very free from rust and remarkably healthy. A good berry for home use and very popular among the market gardeners.

***COLUMBIAN.** A very large, dark red or purple variety that is proving popular all over the country. It is a first-class table fruit, and the best of all raspberries for canning. An exceedingly valuable berry for the home garden, as, like the black varieties, it does not sucker, and produces well in dry seasons where other kinds fail. We especially recommend it. In planting this and the black varieties, great care is necessary not to injure the bud in the center of the spreading fibrous roots, which is the center of life of the plant. If it be broken off or roughly trodden on, the plant

Gooseberries

A greatly neglected fruit. Nothing makes a finer sauce for winter use. For the acme of all rich things commend us to our mother's gooseberry pies. These with the currant, and plum, are ready to make themselves "at home" even in Manitoba, and require no more attention than in the best fruit regions of the East. Plant, cultivate and protect from worms exactly the same as currants.

***HOUGHTON.** Pale red,

the best of all gooseberries.



Columbian, the best producer, does not spread.

will likely fail to grow. It is also important in planting that this bud should not be covered more than an inch or so, as it has not the strength or vigor to push up through much soil. Lack of precaution in these two matters is the cause of the loss of a large share of tip-rooting raspberry plants at time of setting.

***OLDER.** Black, hardy and reliable. Fruit of large size, sweet and with the smallest proportion of seed pulp of all the black caps we have ever tried. This is by far the most reliable fruiter of its class, and is also a berry of the choicest quality, a rare combination. Does not spread by suckering.

ST. REGIS. This comes the nearest to being an everbearing raspberry of anything that has yet been sent out. The berry is red, of good size, sweet, and fine flavored. Flesh is firm and meaty. The canes are of stocky growth, dark green leathery foliage. Foliage does not suffer from sunburn or scald, and the cane growth is not injured by the heat or drouth of summer. It is of iron-clad hardihood, and its canes stand the severest cold uninjured. The St. Regis is a heavy bearer in the regular red raspberry season, and in favorable seasons the bushes will produce fruit throughout the summer. It is one of the most profitable red raspberries.

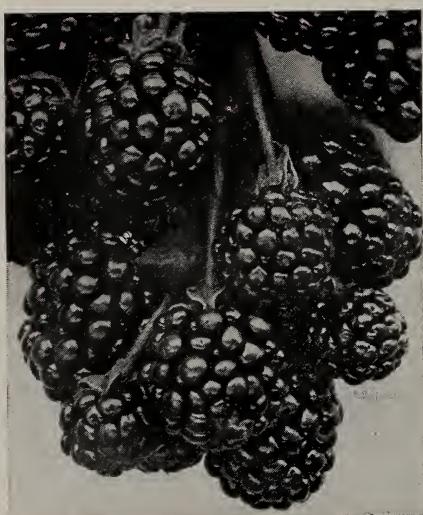
***MINNESOTA No. 4.** This is a new red raspberry produced at the Minnesota Fruit Breeding Farm that seems to combine in a high degree all the merits of the best varieties, and approaches the nearest to perfection of anything yet given to the public. The bush is as hardy as the iron-clad Turner, requiring no winter cover; as healthy as the King, and as productive as the Cuthbert. The berries will average the largest size of anything we have seen, are as handsome and high flavored as the Louden and as firm as the Marlboro. There are few fruits that at this time give more promise of becoming useful all over the Northern States than this beautiful new raspberry.



The Minnesota No. 4 Raspberry. (Described on page 23.)

Blackberries

None of the small fruits yield more abundantly than this, if the trouble be taken to cover it in winter. This is easily done by removing a spade-ful of dirt from one side of the hill and bending the canes in the root to the ground, and holding them there by slight covering of dirt. We are inclined to think that the blackberry requires a sandy soil in order to be most profitable. Planting and care similar to the raspberry. The blackberry and the black raspberry are two distinct fruits. There seem to be a number of people who do not understand this and plant the tender blackberry when they really wish a hardy black raspberry like the Older.



Eldorado Blackberry.

ELDORADO. A variety of superior health and now regarded as one of the best for Northern planting.



**Progressive Everbearing
Strawberry.** (Described
on page 27.)

Strawberries

The first fruit of the season and the most popular of all. In our climate, should always be planted in early spring. Lay out the rows 4 feet apart, plants 1 to 2 feet apart in the row. Take care to plant just right, neither too deep nor too shallow but so that the bud at the base of the leaves will be even with the surface of the soil. We always use a spade in setting the plant, thrusting the blade into the ground its full length, prying back a little on the handle, and lifting the earth so that there is a hole back of the blade its full length. While the blade holds up the earth an assistant, giving a flip to the roots, puts the plant in behind the spade, holding it at the right depth, with its roots pointing down, while the moist earth is dropped upon them. The man with the spade then presses the earth against the roots with his foot and every pound of weight he can muster, and the job is finished. No quicker or safer way of setting strawberry and other similar plants has yet been devised.

Pinch off all the blossoms, and allow no fruit before the middle of July. Don't plant in land that has been in grass or clover within three years, as the white grub infests such land and will be quite certain to destroy the plants. Do not allow the plants to mat too thickly in the row, but spread them out and make a row 2 feet wide. Hoe and cultivate quite often, killing the weeds when they are small. As soon as the ground freezes mulch the bed with a sprinkling of clean straw put on thick enough to thoroughly hide the plants. In the spring a little of the finer mulch may be left on the plants to keep the berries out of the dirt. The rest should be raked into the path between the rows.

There are two classes of strawberries, named after the character of their blossoms, perfect and imperfect. The former will bear if planted by themselves; the latter require a row of some perfect variety planted among them as often as every third row. The only varieties that we describe or recommend are the perfect flowering. It would be good if all others were absolutely discarded by all but the professional growers.



Distinct rows produce more berries than a matted patch.

STRAWBERRIES—Continued.

***SENATOR DUNLAP.** A variety of medium season that has made a wonderful record all over this section. Of large size, round form, rich dark color; very firm, of fine quality, and the most satisfactory in productiveness of anything we have tried. If we could have but one variety of the June bearers it would certainly be the Senator Dunlap.

***BRANDYWINE.** Season late, of large size, fine round form, rich color, and exceedingly firm and solid, making a first-class shipping berry, and the very best in quality of all the June varieties we grow.

***LOVETT.** One of the earliest. Berry large, bright red, conical, firm, of excellent flavor, productive. The plant is healthy and makes sufficient runners for a good matted row.

Everbearing Strawberries

For some time past we have been recommending the new everbearing strawberries as a fruit for the family garden without knowing exactly what they would yield.

On the first of May we put out in our back yard one square rod, carefully measured, of the Progressive, setting the plants in rows twenty inches apart, ten inches apart in the row. The bed was kept clean and the runners and blossoms cut. About the first of July we mulched the ground between the rows with lawn clippings, which kept down the weeds for the rest of the season. The tenth of July we stopped cutting the blossoms, allowing the strength to go to the fruit. From then on we had little work with the runners. In the midst of the fierce drouth of July we watered the bed thoroughly about five times. This sums up the care and time put into the bed.

On July 23rd, eighty-three days after setting, we began to pick berries. Every picking was carefully weighed and recorded at the time with the following results: July, 56 ounces; August, 432 ounces; September, 444 ounces; October, 413 ounces.

Eighteen make a quart, dry measure. The total picking for the ninety days thus amounted to $74\frac{3}{4}$ quarts, or something over two and one-third bushels of fruit, an average of five-sixths of a quart per day.

This means an average family supply of the choicest of all fruits one meal a day from the last of July till freezing weather, and the plants as healthy and promising for a crop next June as any of the good old standard kinds. Is there any other fruit or vegetable that will compare with it? Strawberries of the old line varieties bring returns fourteen months from planting, require a large outlay in mulching, and run chances of serious injury over winter. Raspberries bring their first crop in two years, and grapes three years from planting. Only such early garden vegetables as lettuce and radishes bring returns within eighty-three days.

Some years ago we made just such an experiment with the best of our June varieties, putting an equal amount of time into the cultivation, besides mulching over winter, and with a favorable season and a good crop, picked thirty-two quarts fourteen months after planting. We considered that a fine yield, and for years mentioned it as an encouragement in strawberry culture. But what shall be said about more than double that yield and within eighty-three days from planting?

What about every family in the North having such a bed in their back yard? Could any ornament be prettier, and planting more attractive? Is there anything that could be put on the family table that would add more pleasure than a dish of fresh, ripe strawberries picked from the home garden every day, three months of summer?

The planting directions given for the June bearing kinds all apply to the everbearing strawberry. In order to have the best success with the everbearers the ground should be made extra rich and the plants put in as early as possible. While we make special mention of the crop they bear the same season the plants are set, the everbearers may be expected to provide first-class crops the second and third seasons the same as the June berries. The only time that the blossoms need be picked off is for the first ten weeks after planting.

*PROGRESSIVE. This is the variety used in the above experiment. There seems to be a very general agreement that it is the best. Supt. Haralson of the state fruit breeding farm, no doubt the best and most impartial authority in the state, reported as follows to the Minnesota Horticultural Society: "Among the everbearing strawberries introduced the last few years, the Progressive is the most satisfactory with us. It will give a good account of itself if planted on a good piece of land and good care given. These strawberries bear their main crop in the fall, the same year set out."

Vegetables

*ASPARAGUS. This is the first green vegetable to come on the table in the spring, and is as wholesome and necessary to the best health as it is generally popular. There is nothing easier to grow, and it is a pity that less than one farmer in four has a good supply in his garden. There is no secret of success but the liberal use of well-rotted manure worked into the soil for a foot or more. For the home garden, set the plants two feet by one foot. For a market garden, double both distances.

*PIE PLANT. An old garden favorite that furnishes the first sauce of the season. This also needs rich ground in order to do its best. Plant three by six feet.

*HORSE RADISH. A root, familiar to everyone, grated and used raw with vinegar. By digging in the fall it may be kept in the cellar like other garden roots and used as desired throughout the winter. Plant one half by three feet.



Asparagus.



No. 2, Mugho Pine.

No. 5, Arbor-Vitae.

No. 3, Black Hills Spruce.

No. 4, Colorado Blue Spruce.

No. 6, Douglas Fir.

Evergreens

Evergreens are rapidly coming into popularity for both ornament and shelter. They are a little more expensive than the deciduous trees, and require somewhat more care in transplanting, but when the right kinds are planted and they are given intelligent care, they are the most useful of all trees in our northern climate, as they hold their foliage during long windy cheerless winters, when they are needed to break the force of storms and relieve the monotonous gray of the landscape. There is absolutely no excuse for leaving our homes without the winter cheer of their warmth and beauty. Small transplanted trees set in any good corn land and cultivated with horse and hoe as a corn field, will grow rapidly. They will not thrive in grass or weeds any better than corn. Our own windbreak is planted in double rows 8 feet apart, and four feet apart in the row. If planting again we would at least double that distance each way. The only secret in handling evergreens is to keep the roots moist every second from the time they are out of the ground until they are planted again. In setting, be careful to pack dirt about the roots with exceeding firmness, or the swaying of the tops in the wind will loosen their hold on the soil. The surface should, of course, be left loose and open as a dust mulch.

Ten Rules for Setting Evergreens

- 1st. Take the trees from the delivery and as soon as you get home put them in your house cellar, without opening the package.
- 2nd. As soon as possible mark or stake out the place for the trees, in land prepared as for a crop of corn.
- 3rd. Prepare a large pail or tub half full of mud about the thickness of common paint. Take it to the cellar, unpack the trees and place them in the pail with their roots in the mud.
- 4th. Keeping their roots in the mud, take the pail of trees to the place marked for them and begin setting them one at a time, a little deeper than they stood in the nursery, and as fast as the holes are dug.
- 5th. Do not use water in setting but throw in fine moist dirt next to the roots and pack the dirt solid as you fill the hole, leaving only an inch or two of loose dirt on top.
- 6th. Cultivate the ground all summer, keeping it clean and mellow, just like a good corn field, or if single trees set in your yard, keep surrounding space mellow and free from grass and weeds.
- 7th. Use no manure. We have set evergreens in banks of clean sand and beds of pure clay with perfect success.
- 8th. It is better to depend upon clean and regular cultivation than to use water.
- 9th. Chickens won't hurt them, but other stock must be kept away.
- 10th. **BEWARE!** If the roots of evergreens are exposed to the sun and air for a minute or two, they are likely to die.



Comfortable Inside with a Blizzard Outside.

AUSTRIAN PINE. Somewhat slow growing but very dense and compact, especially at the top. A single row of these trees if planted eight feet apart make an effective windbreak. Does well on light soils where there is a fair amount of moisture.

***BULL PINE (PONDEROSA.)** This is the wonderful tree that we found growing on the tops of the Buttes in the Bad Lands of western North Dakota, near the old Roosevelt ranch. The hardiest deciduous trees like the ash and cottonwood on the Western plains always hug the water courses. But this rugged tree, scorning protection or moisture, crowns the highest ridges, bidding defiance to the harshest climate within the limits of our country. Grows there to saw log size. Trees grown from seeds gathered in this section afford the home makers of western Minnesota and the Dakotas an evergreen that is fully able to withstand every hardship of their climate. There is an absolute certainty that it will make a good windbreak on any land dry enough for farm crops south of the Manitoba line. There is no longer an excuse for leaving a single home on the prairies unprotected.

MUGHO PINE (Dwarf Mountain Pine). A low and spreading grower which is extensively used in landscape work. Does well on any good soil suitable for garden. This type when used in hedges makes one of the prettiest sights we have ever seen. Instead of keeping the desired shape by shearing and trimming with a hedge shears it can be controlled by pinching off the young buds, thus forming a hedge of any width.

***SCOTCH PINE.** Grows fast and resists drouth; makes one of the cheapest and quickest windbreaks of all evergreens, and should be planted largely all over the prairie regions. It is just as easy to make live as the box elder, if the trees are handled according to the rules given above. Like all pines when it gets to be old it is inclined to lose its lower branches, and the windbreak would be improved by planting a row of black hills spruce by the side of it.

WHITE PINE. Valuable anywhere in the natural forested area of Minnesota. A rapid grower when given the most favorable conditions, often outstripping the hard-woods. Very long lived and for this reason makes as good a shade tree as it does a windbreak. Generally recommended to be planted only east of Albert Lea except in sheltered locations.

EVERGREENS—Continued.

ARBOR-VITAE. A fine tree, very pretty for hedges and screens. Succeeds well in certain localities but no evergreen suffers more from drouth. Should only be planted in moist and sheltered places.

BALSAM FIR. A favorite with many. Very regular and handsome as a young tree, but somewhat unreliable as it reaches maturity. This, with the Norway Spruce, White Pine and even Arbor-Vitae, make very good trees east of Albert Lea, but are not so good as others for the Western prairies.

***DOUGLAS FIR.** We recommend this wonderful tree for areas outside the White Pine districts. It must be kept in mind that only trees grown from seeds gathered in central Montana or pretty well north, on this side of the Rockies are worthy of mention as those from Colorado and the far West do not measure up in merit to the Montana type. As a young tree the Douglas Fir will probably be unpopular on account of its inclination to lose its leader or main shoot but every year of age improves its appearance until it becomes one of the grandest and most graceful of the conifers. Because of its sturdy drouth-resisting characteristics it should be planted in dry soils where others cannot survive. Makes an excellent ornamental evergreen as well as a wind-break tree.

***BLACK HILLS SPRUCE.** A native of the Black Hills of South Dakota, and the hardiest form of the white spruce. A most valuable tree either for the lawn or wind-break. Grows a little more slowly than the Norway, but every inch of it is a dark rich green. It is easy to make live, and resists drouth wonderfully.

***BLUE SPRUCE.** This is the queen of ornamental evergreens, and seems especially adapted to the climate of the North Mississippi Valley from the lakes to the mountains, and even far up in Manitoba. In all the time that we have had it at our place it has never shown any injury from winter's cold or summer's drouth. The color of the foliage of this tree varies from a light silvery green to as dark a shade as that of the Norway Spruce. The light shades are by far the most rare and valuable, and shine out on the lawn as if frosted with silver. The trees of the selected light shades are called "Shiners"—and are much higher priced than the common blue spruce, although no harder trees. When delivered in the spring all look alike, and it takes a year or two after transplanting for the "Shiners" to get back their silvery plumage.

NORWAY SPRUCE. This is the tree that is so generally planted. It grows fast and makes the finest windbreak on soils that are not too dry. We do not recommend its planting west of Albert Lea, as it is inclined to brown and fail in drouth, especially if planted in exposed situations.

Shade Trees

***AMERICAN OR WHITE ELM.** The standard shade and ornamental street tree of America. Seems to be able to endure more hardship and abuse than even the oak, and is also one of the cleanest and freest from insect enemies of all our native trees. Where a large shade or street tree is desired and the question comes up what to plant, it is a safe thing to choose the American Elm.

***ASH.** The most reliable of all trees for the Western prairie. Stands well where most other deciduous trees fail from drouth. Very little subject to the attack of insects or disease. A first-class lawn or street tree. Makes a steady good growth. Wherever a tree is wanted in a dry location such as a sand bank or gravelly knoll the ash is the safe thing to plant.

***BOX ELDER.** Of very rapid growth, making a fine, dense shade in perhaps the shortest time of anything that can be planted. In order to get immediate effect it is frequently desirable to use a share of this tree and the soft maple in connection with the better kinds mentioned on preceding page.

***NORWAY POPLAR.** A member of the cottonwood family with all its good qualities, but sheds no cotton. Is no doubt the fastest growing tree that can be planted in the North, and on that account very useful where an immediate effect is desired.

SOFT MAPLE. A rank-growing tree, suited to deep moist soils. If trimmed so as to avoid making forks that split down in heavy winds, it becomes one of the most graceful and beautiful trees of our latitude.



Linden.

NORWAY MAPLE. Very similar to our native sugar maple, but much more dense in foliage and enduring drouth far better. Trees planted forty years are looking extremely well at Albert Lea, and perhaps the most admired of all the shade trees in our city. Especially noticeable in the autumn when it holds its magnificent foliage nearly two weeks after every other tree has taken on a bare and wintry appearance.

***LINDEN.** One of the most reliable, hardy and drouth resisting shade trees on the whole list. Growth reasonably rapid, shade dense, blossoms exceedingly fragrant. Should have its trunk shaded for the first year or so after planting to prevent sunscald.

***EUROPEAN WHITE BIRCH.** Very beautiful in winter or summer, with its papery bark and finely divided spray. Deserves a place on every lawn. Makes a very pretty group when three or more are planted together.

***MOUNTAIN ASH.** Perfectly hardy, bears large clusters of fragrant blossoms, which are followed by handsome red berries that frequently hang on the tree all winter. It is somewhat inclined to sunscald, which may be prevented by planting a flowering shrub to shade the trunk. It has been the common practice to plant too many large shade trees and too few shrubs and small sized trees. The mountain ash is one of the best and cleanest of the smaller trees, one that may be planted in almost any town lot, however limited its size.

Weeping Trees

***NIOBE WEEPING WILLOW.** An interesting introduction from Russia brought over by Prof. Hansen of South Dakota. A hardy tree with graceful, drooping golden twigs that is very desirable for park, lawn or cemetery. A great improvement on the old time weeping willows, and well suited to planting anywhere in the Northern States.

WEEPING TREES—Continued.

***CUT LEAFED WEEPING BIRCH.** The most graceful and desirable weeping tree known. Perfectly hardy but in dry seasons should have one thorough watering in the fall.

***WIER'S CUT LEAFED MAPLE.** A hardy and desirable silver maple, with delicately cut and divided foliage and a form rivaling the beauty and grace of the weeping birch. One of the best trees of its class.



Nut Trees

Nut trees are a looming possibility, the joy of children and the pride of their owner. As a class they do not transplant kindly in large sizes, nor grow quickly, but they grow vigorously when established and are all noble trees. Many farms contain land that would be far better planted to nut trees than anything else, and would pay better than farm crops, besides annually growing more valuable as timber. We offer fine stocks of nut trees.

BLACK WALNUT. The most desirable of the nut-bearing trees for planting south of the latitude of St. Paul. Makes a fine lawn tree if the soil is not too dry, and is well worth planting for its most excellent nuts, which find a ready sale on the market.

BUTTERNUT. A much hardier tree than the black walnut, but very liable to sunscald unless sheltered on the south side. May be planted anywhere in Minnesota. Bears nuts soon, usually within six years after planting.



View Showing Norway Maple and Berberis Hedge.

Forest Trees

There are still many places on the Western prairies where a shelter grove and timber lot are needed to make a complete farm home. With land still plentiful it is doubtful if two or more acres can be put to better use than providing a shelter for the home and all the stock and farm buildings, in a climate where winds below the freezing point are blowing nearly half the year. The trimmings from a good-sized grove will furnish a good supply of the best summer wood, poles, posts, and timber for various uses that will always be convenient to have at hand.

Such groves should be planted about four feet apart each way so as to encourage a clean straight growth and the sooner shade so as to require no cultivation. An acre thus planted requires 2,720 trees.

For dry soils and on the Western prairies plant a good proportion of Ash. It is not only the hardest but makes the most useful timber of all our forest trees. The Box Elder is good to mix with more valuable trees, as it grows fast while young, shades the ground quickly and forces the slower trees to make clean straight stems. The American Elm is almost equal in hardiness but not of so much use for timber. Valuable to mix with other trees. In moist soils the Soft Maple is a good tree, especially valuable for firewood. But after all there is no tree that equals the willow for shelter and fuel. On the dry Western prairies the Laurel Leafed Willow is the most popular. Its broad thick shiny leaves seem to be especially fitted to endure dry air. The Russian Golden Willow is also very popular. It branches profusely, making a denser shelter than any other tree. The Northern Pacific Railroad is using it to take place of its expensive and troublesome snow fences. But the Norway Poplar is the tree that leads them all in rapid upward growth and saw log qualities.



HYDRANGEA P.C.

(For description see page 35.)

Flowering Shrubs



roses. Very pretty and much used as cut flowers.

BARBERRY, THUNBERG'S. This is the Japanese shrub that is innocent of any injury to crops of grain, and is the most used of any for hedging and for filling in next to the lawn in groups of shrubbery. It endures shade well and makes a solid mass of verdure from the ground up. It is particularly attractive when loaded with coral red berries the latter part of the season.

***BUCKTHORN.** An extremely hardy shrub suitable for planting in the poorest soils and most exposed locations, where it will always make the best of limited opportunities. Foliage the darkest green, dense, and somewhat thorny.

***CARAGANA.** Another shrub that can be depended upon to make the best of adverse conditions. Its pretty foliage and attractive yellow pea-like blossoms are put forth very early in the season.

BECHTEL'S DOUBLE FLOWERING CRAB. This is exactly like our native green fruited crab, and equally hardy and sweet-scented, but the blossoms instead of being single are so double as to closely resemble little roses. So interesting and beautiful is this little tree that we would advise its planting by everyone. There is room for it even on a small town lot, where it would be far more in place than many of the larger growing trees that are commonly planted.

CORAL BERRY. One of the little known shrubs that is being used quite freely in landscape work. Its bright red berries are held for a long time during the latter part of the season.

***CRANBERRY.** Very similar to the snowball in appearance, being ornamental in flower and exceedingly handsome when loaded with its red drooping berries later in the season. Perfectly hardy and worthy of a place in the cool moist soils in which it thrives.

***CURRANT.** This is the old-fashioned fragrant yellow currant that blooms early in the season and has lately come into considerable use in landscape work.

***DOGWOOD.** One of the best shrubs for shady places, also doing well in full sunlight. Much used as an ornamental hedge. The branches turn to a brilliant blood-red on the approach of winter, making the plant very showy at that season.

ALMOND.

A small shrub of medium hardness that blooms profusely very early in the spring, when each twig has the appearance of being covered with a mass of little

***DOGWOOD, VARIEGATED.** Similar in every respect to the red-branched, but having its leaves spotted with various shades of green, making an interesting variety.

***ELDER, COMMON.** One of the finest and most picturesque native shrubs. Large clusters of fragrant white flowers are followed by showy deep purple berries.

ELDER, GOLDEN. The most showy of all golden-leaved shrubs. Frequently kills down to the snow line, but always starts up with a strong growth near the ground, and in a month is again as showy as a bed of yellow flowers.

ELDER, CUT-LEAFED. Each leaf is cut and divided so as to give the appearance of a fern. Very attractive and useful.

***HONEYSUCKLE, TARTARIAN.** This is the old-fashioned bush honeysuckle with exquisite fragrant blossoms in early June. This comes in both pink and white colors.

HONEYSUCKLE, BELLA ALBIDA. A variety of the Tartarian Honeysuckle.

HONEYSUCKLE, MORROWI. A Japanese variety. The flowers change to yellow and are followed by a mass of bright red berries in August.

***HYDRANGEA PANICULATA GRANDIFLORA.** A hardy outdoor Hydrangea that blossoms in August when flowers are scarce. Its immense blooms sometimes measure nearly a foot in length, and last at least two months. Needs no protection, but in order to secure the finest bloomis should be watered thoroughly about once a week as soon as it begins to bloom.

HYDRANGEA ARBORESCENS. The latest addition to the summer flowering hardy shrubs coming into bloom after all the earlier ones have passed away and having the appearance of "hills of snow" in the middle of the summer. A lawn having this fine shrub may be said to be strictly up to date. Does well in the shade.

***LILAC.** Purple, White and Persian. These are the old-fashioned shrubs that are familiar to all. The purple and Persian lilacs are excellent hedges and screens, and should be planted in such quantities that their flowers may be gathered by the armful in their season. None of the lilacs will bloom freely unless growing in the full sunlight.

Those who have never seen the French double lilacs cannot realize what a wealth of new beauty has been developed in this old-fashioned shrub. Not only have the blossoms been made double, but the size of the heads have been enlarged until some of them are occasionally eleven inches long. And moreover they bloom as little things less than two feet high, instead of waiting till grown to be large bushes. This has all been done while retaining their perfect hardiness and the delightful fragrance of the old kinds. We have had some thirty named varieties on trial and recommend the following as the best of their color:

Madam Lemoine. Pure white.

Charles Joly. Dark purple.

President Grevy. Light lilac.

Belle de Nancy. Pink.

PRUNUS TRILOBA. Is similar to the pink flowering almond, but the blossoms are fragrant, a little larger and earlier, and the shrubs somewhat stronger growing.



Dogwood.

SHRUBS—Continued.

SNOWBERRY. A graceful drooping shrub covered with snow white berries in autumn. Much used for planting in front of higher shrubbery in shady places.

SNOWBALL. One of the old time favorites that never can be displaced. Good rich soil and an abundance of moisture will greatly improve the general appearance of the bush. If inclined to be lousy, douse the branches in a decoction of tobacco water.

***SYRINGA.** A vigorous bush, bearing flowers with delicious orange blossom fragrance. Very ornamental. Sometimes makes a small tree as high as 20 feet.

SYRINGA, AUREA. A golden-leaved variety of the above. Perhaps the best of all the shrubs of the color. All golden-leaved shrubs must be planted in full sunlight.

SYRINGA, LEMOINEI. A miniature of the common Syringa. Flowers in wonderful profusion, and of the most exquisite fragrance. Of a graceful drooping habit somewhat like the Spirea V. H., and blooming two weeks later.

***SPIREA VAN HOUTTEI.** Frequently called the Bridal Wreath. This seems to come about as near perfection as any ornamental shrub that can be planted in the North. As hardy as the hazel brush, and sure to be loaded with a mass of white flowers in June of the year after planting. A graceful and attractive bush all the year.

SPIREA ARGUTA. The first of the family to bloom. In early spring its flowers cover the bush like a snow drift. Foliage light green.

SPIREA ANTHONY WATERER. A much smaller bush than the Van Houttei, but having the valuable habit of blooming nearly all summer. It is a dull red color, and very valuable for giving color to a group of shrubs.

SPIREA, CALLOSA ALBA. Much like the Anthony Waterer but bearing white blossoms throughout the summer.

SPIREA ROSEA. Belongs to the same family as the above but is of stronger growth, tinted foliage, and bears pink flowers.



SPIREA VAN HOUTTEI

Roses

New Hardy Varieties

The new hybrid Rugosa roses can be grown all over Minnesota and the Dakotas without winter protection, and are without doubt the most important addition to the family of the "queen of flowers" that has come to our Northern gardens. The old time roses are subject to diseased foliage in our summers, their roots are unequal to our severe winters, and their general constitution is so weak as to require the petting of an expert gardener.

The new Rugosas are

not built on any such weak and doubtful plan. Inheriting a robust constitution from an ancestry inured to the hardships of the frigid climate of northern Asia, they have received a sufficient infusion of the blood of the best of the cultivated kinds to give them a variety of form and color which in combination with the magnificent foliage, delicate fragrance and habit of perpetual bloom of their Rugosa parent has fitted them to fill the long felt want of a hardy rose for the cold North. We strongly advise our patrons to secure not only one, but a complete collection, as each has peculiar merits which will delight all lovers of the rose, and which we of the North are at last privileged to enjoy to the full. In order to illustrate their freedom of bloom, even during the autumn months, we had several photos taken on October 7th, four days before the great freeze. On the table with them were fine bunches of Beta grapes. Ripe grapes and ripe roses at the same time.

***BLANC DE COUBERT.** Purest paper white, of large size, often four inches in diameter, semi-double, produced in clusters, exquisitely fragrant and with foliage of unrivaled richness. It is the first rose to bloom in the spring, and blossoms may be picked from it every day throughout the summer, and until cut off by severe freezes. We have had this variety fifteen years and never knew it to be injured by the severest winter. We hear of the beauty of rose hedges in California, and have long wished that our climate would permit us to enjoy such an out-of-door luxury, but we have never before had anything we could offer for this purpose to the people of the North, the old sorts being too tender and subject to disease. Now we have it. A rose with a foliage far ahead of anything California can boast, a strong grower, and with all the other good qualities, making a perfect low hedge full of bloom all summer.

***HANSA.** Deep red, very large, perfectly double, fragrant. In this fine variety, unlike most of its class, the buds of each cluster open about the same time, giving the effect at a distance of a single rose of immense size. The foliage is a particularly



Hansa.



Blanc de Coubert in Hedge Planting.

ROSES—Continued.

dark rich green and the bush absolutely hardy. A beauty every way. We especially recommend these two roses for general planting. As ornamental shrubs they have no superior and are especially attractive when grouped together.

NEW CENTURY. Rosy pink, shading to almost a red center, good size, fine fragrance, perfectly double, produced in clusters and exceedingly free blooming. A very interesting and distinct variety but not as hardy as Hansa and Blanc de Coubert.

SIR THOMAS LIPTON. Pure white, fragrant, smaller than the Blanc, and not quite so free a bloomer, but perfectly double and lasting better as a cut flower, much resembling the Madam Plantier in form of bloom. About as hardy as the New Century.

CONRAD F. MEYER. Clear, silvery pink, of largest size, almost as large as the Paul Neyron, very double, choicest fragrance, continuous bloom. Bush thrifty and vigorous. An exceedingly choice rose, but considerably less hardy than the others of this group, and needing winter protection. While this superb rose is the least hardy of its class it is much easier to grow than the best of the hybrid perpetuals, to which class General Jacqueminot and Paul Neyron belong, and is equal to them all in qualities that make a first-class cut flower.

Tender Varieties

Nearly all the old line of roses require winter protection, a good covering of soil being about the best that can be given them. While we class these roses as tender, they are the hardiest and most satisfactory to be had except the new Rugosas.

GEN. JACQUEMINOT. Dark red, double, fragrant. The most popular of its color.

PAUL NEYRON. Pink, very double and fragrant. The largest outdoor rose in cultivation; a magnificent variety.

BLACK PRINCE (Prince Camille.) Very rich dark velvety crimson, passing to intense maroon shaded black; large full flowers, looking at a short distance as if really black; very handsome.

HARRISON YELLOW. The best of all the yellow roses for our climate. Perfectly hardy, fragrant, and blooms profusely about the first of June.

BABY RAMBLERS. These are little dwarf roses of the easiest cultivation that bloom in the utmost profusion all summer. They have wintered with us for years past by simply throwing a little straw over the plants on the approach of winter.

Climbing Roses

QUEEN OF THE PRAIRIE. A climbing rose. Bright rosy red, moderately double, very vigorous and healthy, and a wonderfully profuse bloomer about the middle of June. The climbing rose that is so generally popular. Must be taken down and covered each autumn.

DOROTHY PERKINS. We think this the best of all the climbing roses for Northern planting. Foliage unusually healthy, and the bush somewhat hardier than the Queen of the Prairie. Blooms in magnificent pink clusters.

CRIMSON RAMBLER. We add this rose to our list on account of the exceeding brilliance of its effect, although it is not so hardy or easy to manage as the other climbers listed, and will need careful attention as to winter cover. Each separate rose is small, and with slight perfume, but blooming as it does in great crimson masses there is nothing in its season more showy.



Crimson Rambler.

Climbing Vines

***AMPELOPSIS ENGELMANNI** (Self Clinging Ivy.) A native of our state. Perhaps the most hardy and desirable of any for covering porches or screens. Foliage turns a beautiful scarlet in the autumn. This self-clinging sort that will climb a brick or stone wall without the assistance of wires or other support is the most desirable type of this popular vine.

***HONEYSUCKLE, SCARLET TRUMPET.** The old garden favorite, blooms all summer, producing the most brilliant coral flowers. Foliage rich glossy green. Should be found about every home.

CLEMATIS JACKMANI. Bears large, intense royal purple flowers of a velvety appearance, in the greatest profusion. This plant requires winter protection and considerable petting. Like all clematis it likes a shady situation.

CLEMATIS PANICULATA. This new white clematis is proving the most valuable of the recent additions to our ornamental list. It is of a vigorous nature that succeeds where given a fair opportunity, and blooms in wonderful profusion in the latter part of the season. Needs winter protection except in sheltered locations.

WISTERIA. One of the most graceful vines. Its purple flowers are borne abundantly in early summer, and in lesser quantity during the season. Needs winter protection.



Ampelopsis Engelmanni.



Peonies

We describe nothing more hardy, beautiful, and easily grown, and when once planted it lasts a life time. It not only produces the grandest of all the flowers of the temperate zone, but is a handsome foliage plant throughout the summer. For indoor decoration it is also unsurpassed, keeping as a cut flower for almost a week. With such a combination of useful and delightful qualities it should be found in quantities about every house.

Plant in good rich soil from two to three feet apart each way, with the buds about three inches below the surface. It makes a magnificent show when put out in large beds ten feet across, with a mixture of colors. It should be kept in mind that although likely to give some good blossoms the year after planting, this flower does not arrive at its full size and form until the third year. The varieties listed below are intended to cover all the principal shades, and the early and the late blooming kinds. The complete collection planted in one large bed would make a sensation in any neighborhood.

***FESTIVA MAXIMA.** Pure white, flecked here and there with crimson, fragrant, of largest size, specimens 7 inches across having been produced; blooms very freely and makes a magnificent bouquet, generally conceded to be the queen of peonies.

***MARIE LEMOINE.** Ivory white, blooming later than all the others, and of particularly fine fragrance. This is a favorite, many being inclined to give it first place.

***ACHILLE.** Shell pink, fading to white, good size, fine form, blooming early and freely. This is a particularly valuable kind, producing more flowers than almost any other we know.

***L' ESPERANCE.** A very early flowering sort of exquisitely shaded satiny pink, very fragrant, especially valuable in the Northern States, as it is a strong, hardy, and robust plant. Peony specialists put it on the "diamond" list.

***GRANDIFLORA RUBRA.** Rose red, season late, size magnificent. The most striking variety in our list. Immense full flower, extremely solid and compact, so double that when fully opened it has the form of a perfect globe.

***LOUIS VAN HOUTTEI.** Dark red, the richest color of our collection, medium season, very early and free blooming. The most useful of the dark reds, as seen at a distance it fairly glows like a ball of fire. Stems erect holding the blooms up out of the mud in rain storms. Makes exceedingly attractive bouquet.

The Iris

This is the blue flag of our grandmother's garden improved and changed so that it can hardly be recognized. Many new colors are now to be had and the size, height and delicacy of form is almost equal to the lily. Once planted it will last for years, and it is one of the things that we find doing well in the coldest driest years in the Dakotas. The Iris can be picked when the first flower on the stem opens and will go on and open up new flowers in the house for a week or more. By planting this collection a month of Iris year after year may be enjoyed. We describe in the order of their flowering.

*VERNA. Dwarf blue, the earliest of all, opening its petals to the frosty air; among the first spring flowers.

*PUMILA. Purple. A little later and larger, of somewhat deeper blue. Stems just long enough to make good bouquets.

*FLORENTINA ALBA. White, suffused with a trace of blue. Large attractive flower, healthy and dependable in every way. These possess a pleasing fragrance and are fine for cutting.

*HONORABLE. Yellow, with rich mahogany falls. In bouquets has something the effect of the native lady slipper.

*MADAM CHEREAU. White, the edges of the petals elegantly penciled violet. The tallest and perhaps the most generally popular.

*HER MAJESTY. A lovely rose pink, a rare shade in the iris. Always attracts attention.

*DARIUS. Yellow, with falls of amethyst marked with veins and yellow margin; rich orange beard. One of the most beautiful.

*ORIENTALIS. Intense deep blue. A Siberian variety of extreme hardiness. About the latest to bloom.

*SNOW QUEEN. The purest white of all. A mate to the Orientalis, which together bring the iris season to a close.

*VIOLACEA GRANDIFLORA. Light violet, very large and showy. Its delightful fragrance resembling the lily is one of its most distinctive characteristics.



A Fine Border Planting of Iris.

Perennial Phlox



Von Lassburg.

***LOTHAIR.** Bright red, pyramidal head, as brilliant a color as can be found among flowers, and the most effective at a distance. The tallest of the collection.

***B. COMTE.** Dark red, makes a large, broad head, endures drouth and hardship well, in height midway between the first two named.

The Dahlia

This is probably the most brilliant of all cultivated flowers and one that blooms most continuously from July till cut off by autumn frosts. It is as easy to grow as the potato, perhaps easier, and it is almost entirely free from insect troubles. They should be planted in spring as soon as danger of freezing is over, trained to one stem during the summer, so as to get the best blooming habit, and tubers should be dug and stored before freezing. These are the standard decorative varieties of their color, perfectly double, long stems, free blooming habit.

ROBERT BROOMFIELD. White, the best decorative dahlia of its color.

SYLVIA. Light shell pink, flowers about four inches in diameter, full to the center. A strong healthy grower.

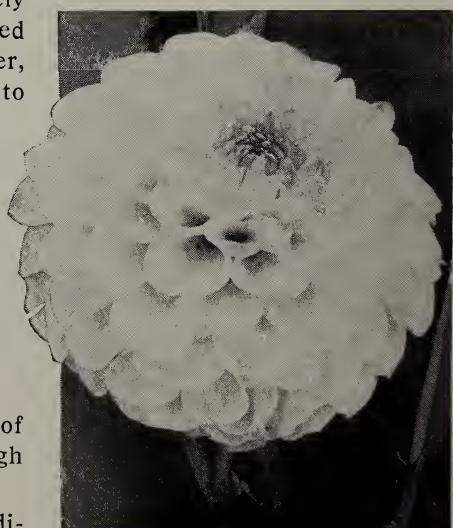
JACK ROSE. Rich red, a rare combination of size, color, and quality with a stem long enough to make it fine for house decoration.

QUEEN VICTORIA. Canary yellow, of medium size and exceedingly floriferous.

Those who know only the old-fashioned phlox, do not know the possibilities of the showy new varieties for landscape effect. They are all perfectly hardy, enduring our severest winters without protection, and when once planted will last a life time if a little pains be taken to divide the roots once in three to five years. The collection embraces the choicest of the modern varieties. The four planted side by side in rows make a gorgeous ribbon on the lawn.

***VON LASSBURG.** Pure white, fine heads formed like a snowball, with individual flowers as large as a silver dollar.

***BERANGER.** Bright rose pink with lighter eye, heads of large size, perfect form, plant of medium height.



Robert Broomfield.

Gladiolus

We call the gladiolus everybody's flower because it has a combination of qualities that make it adapted to everyone, from the farmer who may grow them in quantities like his potatoes, to the city dweller with a little patch of soil between brick walls.

In ease of culture, brilliance of bloom, durability as a cut flower, and long blooming period it stands without a peer among bulbs, and has proved itself well adapted to the conditions of our part of the country.

To have a succession of bloom plant from May 1st to July 1st in any good garden soil, the top of the bulbs five inches below the surface, six inches apart each way, taking pains to place them right side up. Good honest cultivation is all that is needed to make them thrive. Dig the bulbs just before the ground freezes, and keep over winter in a dry, cool place, and the chances are that you will have a larger lot to plant next season.

GOLDEN KING. Light yellow with darker spots on the throat. Very vigorous and healthy. The most popular in this part of the country.

AMERICA. Light pink, the most popular of all. Very large, but stands without staking. Vigorous and prolific. A wonderful variety, easily deserving the first place in any collection.

INDEPENDENCE. Light red. The best shade in artificial light. Extremely prolific and easy to grow. In all useful qualities is near the head of the gladiolus list.

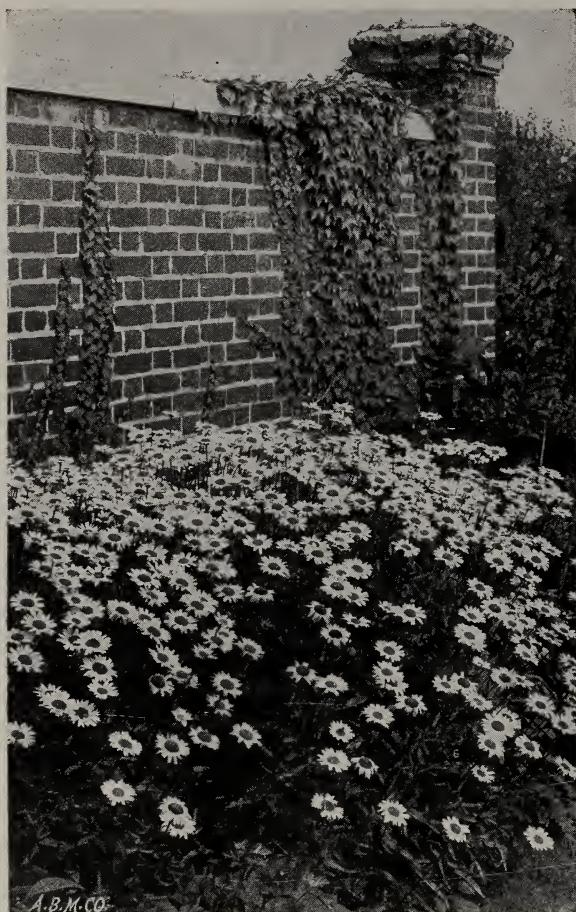
MAUDE. Creamy white with maroon spot on lower petals. One of the very best of the light colored varieties, blooming freely even from the smallest bulbs.



As a cut flower the Gladiolus will stay fresh for two weeks.



Hardy Perennials



Shasta daisies brighten up your garden.

***LARKSPUR.** The modern larkspur is one of the most stately and effective of all hardy flowers. Blooms in white and in all shades of blue, in spikes a foot long with stems one to three feet high. If cut as soon as the flowers fade, spikes can be cut from July to very late in the fall, as it takes a very severe freeze to kill either leaves or blossoms. Absolutely hardy.

***DOUBLE TIGER LILY.** An old-fashioned flower that has been improved in color effect by doubling of its blossoms. Few things are easier to grow, or give a richer show during midsummer when the intense heat has withered up a large share of the common flowers. The only true lily that is dependable in our climate.

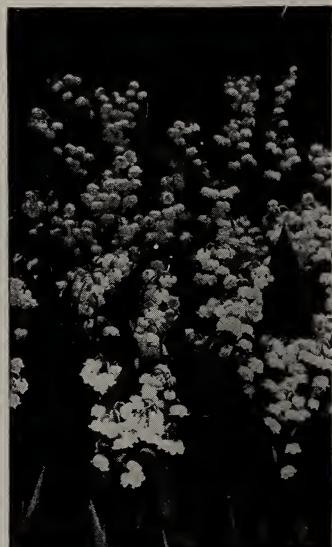
***LYCHNIS CHALCEDONICA.** A hardy plant growing to the height of about two feet and bearing showy bright red flowers in July and August. Cutting off the top when it has grown to a foot high causes it to produce more freely.

***SHASTA DAISY.** White, blooms freely all summer, fairly hardy, but should be divided once in two years. A famous production of Luther Burbank.

***GAILLARDIA.** Resembling the daisy in form and habit but of the most brilliant orange and red coloring. About 18 inches high. Blooms freely from June to November, and is of the most dependable hardiness everywhere. For cut flowers there are few things more satisfactory.

***BLEEDING HEART.** One of the old-fashioned and well known perennials, with delicate broad, finely cut leaves and long racemes of heart-shaped flowers. Well suited to shady places, and of undoubted hardiness.

***GOLDEN GLOW.** A strong robust grower, attaining a height of five to six feet and producing masses of double golden yellow dahlia-like flowers from July to September. One of the most attractive of the autumn-flowering perennials and much valued for cutting. Hardy everywhere.



Lily-of-the-Valley.

HARDY PERENNIALS—Continued.

LEMON-LILY. A handsome plant with narrow foliage and splendid yellow lily-like flowers, about 2 feet high. Delightfully fragrant and of such easy culture that no garden should be without it.

***LILY OF THE VALLEY.** One of the delicate, fairy-like flowers that grow well in shady places and are as hardy as the wildlings.

***ACHILLEA.** One of the hardiest, bearing white flowers shaped like little roses in such profusion as to make a bed of them appear like a snowbank. Something worth growing and that everybody can have.

***COLUMBINE.** A tall growing perennial blooming in June. The new columbines are of the most varied styles and colors. Red, white, blue, and yellow, in all possible shades and combinations. A delightful flower just as easy to grow as the wild variety.

FORGET-ME-NOT. An old-fashioned blue of delightful fragrance especially suited to shady places.



The Larkspur may be used as a cut flower from July until late in the fall.



Hedges

Hedges have again come into great popularity, and where planted thickly and given careful pruning from the start, give most satisfactory landscape effects. The standard distances between the plants used to be about 18 inches. But later experience is decidedly in favor of closer planting, so that now we recommend about 12 inches for all sheared hedges. By such close planting a good thick bottom, which is the most important part of a hedge, can be had in the shortest time.

***BUCKTHORN.** Makes the hardiest and most dependable hedge, and one that can be kept at almost any desired height. Its dark green foliage is especially attractive and its thorns will in time make it quite able to defend itself. For a low hedge that will stand shade well the **Berberis Thunbergii**, Japanese Berberry, is unexcelled, and is now planted as much as all other kinds put together. Its red berries, and bright autumn foliage are held well into early winter. The **Tartarian Honeysuckle** makes a good medium to high hedge that is covered with fragrant blossoms, and does well in shade or sun. The **Dogwood** also blooms well and makes a medium height hedge. In winter its blood red twigs make it the prettiest of all. Even the **Lilac** when well pruned makes a good hedge. But it must always have its full share of sunlight.

So far we have mentioned several kinds that need to be sheared. The following make a splendid appearance lined out in a single row, and allowed to grow about as they please. Nothing is more graceful the year round than the **Spirea Van Houttei**, and when covered with its bank of showy white flowers it is without a peer. The **Hydrangea P. G.** can also be used to good effect, making a grand show during the latter part of the season. But for an all summer show of flowers and rich green foliage nothing approaches the **Hansa** and **Blanc de Coubert** roses, described under their proper head. There are perhaps fewer failures with such a hedge than any other, if it is kept in mind that they require full sunlight.

Evergreen hedges are very pretty in winter when they hold their foliage in contrast to the bare deciduous shrubs surrounding them. Great care must be exercised in choosing the right variety of evergreen hedge for the different locations. The **Arbor-Vitae** is perhaps the best known hedge of them all and looks exceptionally well when kept sheared. It must not be planted on a place that is too dry as it demands a low moist soil for the best results. For a good drouth resisting hedge we cannot recommend anything that will do better than the **Black Hills Spruce**. In handling this hedge it is best to let it grow to the desired height without shearing and then keep it at this height with as little shearing as possible.

Mugho Pine is something that has come into vogue the last few years and now-a-days we see quite a few hedges of this type in city parks and large landscapes. It never gets up very high but can be trained to be low and broad. To use this in a small city lot would not be advisable but where an evergreen hedge is wanted on a large open area there is nothing prettier and it will grow on a much drier soil than the **Arbor-Vitae**.





Landscape Gardening

The art of planting to make grounds convenient, comfortable, and beautiful, is as old as civilization, and in these days has been brought to a perfection never before enjoyed. Many people do not realize that the modern outdoor artist makes utility his chief aim. He will have the planting so arranged that the walks and drives will be convenient, the views pleasing, the home and stock protected from wintry winds, and the whole planted so as to bring out the most beautiful foliage and charming flowers.

He will also arrange the planting so that it will be convenient to care for, and so





that the largest amount of space may be used by the occupants of the premises. While bringing the most beautiful material into view he will arrange the whole into one harmonious picture.

Everyone must have noticed the common way of breaking up the open grassy spaces, and spotting them with individual shrubs and flowers of all kinds, of laying out drives and walks with crooks and turns exasperating to those who use the grounds daily, losing valuable time thereby, and they have also seen places so over-shaded with large trees as to be gloomy and unwholesome.

All these common errors and discomforts will be avoided by a good landscape artist, the grounds will be planned so that large clear grassy places may be enjoyed by the family, and where open air games may be played without hindrance or obstruction in the park. Instead of scattering the plants about the lawn making them difficult to care for, and closing up interesting views, he will cluster them about the house, or the public buildings, where they will make a happy connection between the walls and the green turf, he will shut out ugly views and protect from wintry winds, and harmonize the whole so as to make it a bower of loveliness and comfort all the year round.

Schools, creameries, public buildings, railroad stations are all made more comfortable and attractive by the landscape art. Most nurseries which make a business of growing ornamental stock have now added landscape departments for the purpose of aiding interested people in making up correct planting plans.

There is no place so small but may derive benefit from a well considered plan made use of at the beginning. It is just as bad to set out grounds without a plan as it is to begin a building the same way. It may not be necessary to do all the planting at one time, but if there is a good plan to work to at the start, the owner may complete the planting at his convenience or ability. The foregoing descriptions of varieties cover the larger share of ornamental trees, shrubs and flowers adapted to our climate. The most common ones are frequently the best, but it is always well to plan for some variety and introduce a few rarer things in almost any planting.



INDEX

	Page		Page
Apples	6	Nut Trees	32
Asparagus	27	Peonies	40
Blackberries	24	Phlox	42
Blight	7	Perkins Seedlings	13-14
Cherries	18	Pie Plant	27
Climbing Vines	39	Plums	15-17
Crabs	14	Pruning at Planting	6
Crooked Trees	10	Raspberries	22-23
Cultivation in the Orchard	8	Renewing Old Orchards	8
Currants	21	Rhubarb	27
Dahlias	42	Roses	37-39
Evergreens	28-30	Selection of Orchard Varieties	11
Flowering Shrubs	34-36	Shade Trees	30-31
Forest Trees	33	Shrubs, Flowering	34-36
Fruits for Minnesota planting	5	Spraying	10
Gladiolus	43	Strawberries	25-27
Gooseberries	22	Sunscauld	7
Grapes	19-20	Ten Rules for Setting Evergreens	28
Hansen Hybrids	16-17	Vegetables	27
Hardy Perennials	44-45	Vines	39
Hedges	46	Weeping Trees	31
Horse Radish	27	What to Plant	5
How to Plant	4	When to Plant	4
Iris	41	Where to Plant	3
Landscape Gardening	47-48		

